

REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on December 4, 2002, and the references cited therewith.

Claim 31 is amended, no claims are canceled, and no claims are added; as a result, claims 1-31 are now pending in this application.

In the Claims

Claim 31 has been amended to correct a grammatical error. In particular, a period was added to the end of claim 31.

Oath or Declaration

The Examiner objected to the Oath or Declaration asserting that the signature of the joint inventor, John Brennan was missing or unsigned. Applicant respectfully submits that the filed Combined Declaration and Power of Attorney included John Brennan's signature. Applicant submits herewith a copy of the Combined Declaration and Power of Attorney filed with the United States Patent and Trademark Office on December 22, 1999. Applicant has also enclosed a copy of the stamped postcard from the United States Patent and Trademark Office as being received on December 29, 1999. As such, Applicant respectfully requests that this objection be withdrawn.

Information Disclosure Statement

Applicant received a copy of the 1449 Form which was submitted with the Information Disclosure Statement filed on January 31, 2000 attached to the Office Action. Unfortunately, U.S. Patent No. 5,509,125 was not initialed. Therefore, Applicant respectfully requests that a copy of the 1449 Form, marked as being considered and initialed by the Examiner, be returned with the next official communication..

S102 Rejection of the Claims

Claims 1-31 were rejected under 35 USC § 102(b) as being anticipated by Galles et al. (US. Patent No. 5,721,819, hereinafter referred to as Galles).

Applicant respectfully traverses this rejection because Galles does not anticipate the claimed invention, as set forth in the rejected claims. Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *In re Dillon* 919 F.2d 688, 16 USPQ 2d 1897, 1908 (Fed. Cir. 1990) (en banc), cert. denied, 500 U.S. 904 (1991). It is not enough, however, that the prior art reference discloses all the claimed elements in isolation. Rather, “[a]nticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*” *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added).

In reference to independent claim 1, the Office Action asserts that Galles teaches the following limitation of claim 1: “**each processing node includes a common communication interface** for communicating with other nodes...” (Emphasis added) The Office Action asserts that Galles teaches this limitation at reference numeral 204 of Figure 2 and reference numeral 508 of Figure 5. According to Galles, Figure 2 teaches a relatively complex node architecture. See Galles at col. 5, lines 29-30. In describing reference number 204, Galles states, “each node comprises a router 204.” Therefore, reference numeral 204 of Figure 2 teaches a router and not a processing node that includes a common communication interface, as claimed in independent claim 1.

As for Figure 5, it teaches “a diagram illustrating the manner in which the equivalent to a 4-dimensional hypercube is implemented using the hierarchical fat hypercube topology.” Galles at col. 6, lines 24-25. In describing reference numeral 508, Galles states, “It should be noted, that in one embodiment, routers 508 can be implemented using devices identical to routers 204.” Galles at col. 6, lines 59-61. Therefore, reference numeral 508 of Figure 5 teaches a router and not a processing node that includes a common communication interface, as claimed in

independent claim 1. Based on the foregoing, Applicant respectfully submits that the cited references do not teach every element of independent claim 1. As such, applicant respectfully requests that the rejection of independent claim 1 under 35 USC §102(b) be withdrawn.

Dependent claims 2-16 depend from independent claim 1 and include all the limitations of independent claim 1. Applicant respectfully submits that these rejected dependent claims are allowable for at least the same reasons cited above.

In reference to independent claim 17, claim 17 includes limitations reciting a processing node comprising a common communication interface that includes a processor interface, a memory interface, a routing interface, and an I/O interface. As similarly discussed above (see discussion of independent claim 1), Galles teaches using routers to connect nodes in hypercube and other architectures. However, Galles does not teach a common communication interface, as claimed in independent claim 17. Because the cited reference does not teach each and every limitation of independent claim 17, Applicant respectfully submits that the rejection of independent claim 17 under 35 USC §102(b) is improper and should be withdrawn.

Dependent claims 18-27 depend from independent claim 17 and include all the limitations of independent claim 17. Applicant respectfully submits that these rejected dependent claims are allowable for at least the same reasons as cited above.

Independent claim 28 also recites a communication interface and is believed to be allowable for at least the reasons stated above. Additionally, Applicant submits that the claims depending from independent claim 28 are allowable for at least the same reasons.

In reference to independent claim 30, the Office Action asserts that the limitations of claim 30 are taught by Galles in Figures 1-5 and at col. 4, lines 1-39. Figures 1A-E & 5 teach hypercube connection topologies, while Figures 2-3 teach hub and router configurations. The cited passage at col. 4, lines 1-39 teaches connecting nodes in a hypercube topology. However, Galles does not teach independent processing nodes coupled to form one of a plurality of computing topologies, wherein each computing topology is a superset of the computing topologies that support fewer processing nodes, as recited in independent claim 30. Because the cited reference does not teach each and every limitation of independent claim 30, Applicant respectfully submits that the rejection of independent claim 30 under 35 USC §102(b) over the cited reference is improper and should be withdrawn.

Applicant also submits that dependent claim 31, which depends from independent claim 30, is allowable for at least the reasons discussed above.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney ((612) 373-6949) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account
No. 19-0743

Respectfully submitted,

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Date

5 May 2003

By

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, Washington, D.C. 20231, on this 5th day of May, 2003.

PATRICIA A. HULTMAN

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Signature